

Certificate of Express Mail No. EL 977933768 US  
Attorney Docket No.: 17938 (AT 20958-2091)

PATENT  
Serial No.: 10/624,856

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: McAlonis, et al.

Serial No.: 10/624,856

Filed: July 22, 2003

For: CONTACT HAVING MULTIPLE  
CONTACT BEAMS

:  
: Art Unit: 2833  
:  
: Examiner: Vu, Hien D.  
:  
:

**DECLARATION UNDER 37 CFR 1.132**

Mail Stop: Amendment  
P.O. Box 1450  
Commissioner for Patents  
Alexandria, VA 22313-1450

I, Dean Small, declare and state as follows:

1. I have reviewed and understand the specification and drawings of U.S. Application 10/624,856 (hereafter "Subject Application").
2. I have reviewed and understand the claims of the Subject Application (hereafter "Claimed Invention").
3. I am currently a registered patent attorney and have represented Tyco Electronics as outside patent counsel since at least 2001.

**FACTS AND DOCUMENTARY EVIDENCE**

4. Factual evidence proving the statements made in this Declaration can be found hereafter and in the attached documents (Appendices A-E).
5. Appendix A attached hereto sets for a preliminary invention disclosure prepared by the inventors of the Subject Application and assigned number 2002095 (hereafter "PID 2002095"). The PID 2002095 describes the Claimed Invention in detail, and includes numerous computer generated drawings illustrating various contact configurations that represent embodiments of the Claimed Invention.
6. On information and belief, the drawings at appendix A were prepared by the inventors on or about April 29 and 30, 2002, which are the dates printed on the drawings. On information and belief, the text of the PID 2002095 at appendix A was prepared by one or more of the inventors on or about April 30, 2002, the date on the cover page of the PID 2002095. The PID 2002095 is signed and dated by each inventor on different days in May of 2002.

7. On information and belief, the PID 2002095 was submitted by the inventors to the responsible in-house patent counsel, Robert J. Kapalka, who was employed by The Whitaker Corporation, an entity wholly-owned by Tyco Electronics.
8. On information and belief, Mr. Kapalka reviewed the PID 2002095 and determined that a patent application should be prepared in connection with the PID 2002095.
9. On or about September 20, 2002, Mr. Kapalka sent me the PID 2002095, along with a cover letter dated September 20, 2002 which is attached at Appendix B, requesting that I prepare a patent application related to the inventions described in the PID 2002095.
10. In accordance with the request of Mr. Kapalka, during the weeks following September 20, 2002, I undertook to contact the first named inventor, Matthew McAlonis, and to work with the inventors to prepare a first draft of a patent application.
11. On or about January 28, 2003, I provided to Mr. McAlonis an electronic copy of a first draft of a patent application related to the PID 2002095, and requested that he and his co-inventors review the application. A copy of my cover letter dated January 28, 2003 to Mr. McAlonis is attached at appendix C.
12. Over the next several weeks following January 28, 2003, I received feedback from Mr. McAlonis and his co-inventors regarding the patent application.
13. On or about March 11, 2003, I provided to Mr. McAlonis an electronic copy of a final draft patent application related to the PID 2002095. A copy of my cover letter dated March 11, 2003 to Mr. McAlonis is attached at appendix D.
14. Over the next several weeks following March 11, 2003, Mr. McAlonis and his co-inventors reviewed the final application and the claims to, among other things, determine the correct inventors that should be named on the patent application. Following this determination, I was provided with a final listing of the correct inventors to be named on the patent application.
15. On or about May 20, 2003, I revised the declaration and power of attorney, and assignment documents to correct the inventors names and I provided the corrected documents to a co-inventor, Troy Conner, who had responsibility for obtaining the executed documents. A copy of an e-mail communication dated May 20, 2003 from my assistant (sent on my behalf) to Mr. Connor is attached at appendix E.
16. On or about July 23, 2003, I filed the Subject Application with the US Patent and Trademark office.
17. Based upon the foregoing facts, on information and belief, the claimed invention was conceived by the inventors of the Subject Application before May 21, 2003, the US filing date of US Patent 6,688,893 to Huang, and before November 13, 2002 (the foreign priority date of the '893 patent).

18. The inventors, Mr. Kapalka and I were diligent, from conception of the Claimed Invention, up through constructive reduction to practice of the Claimed Invention, by filing the Subject Application on July 23, 2003 with the US Patent and Trademark Office.

**DECLARATION**

As the person signing below:

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application and any patent issued thereon.

**SIGNATURE**

SOLE INVENTOR

Full Name: Dean D. Small

Signature: Dean Small Date: 1/12/05

Residence: One Mosley Acres ST. Louis, MO 63141

Citizenship: US

Post Office Address: N/A

The following are attached and made a part hereof:

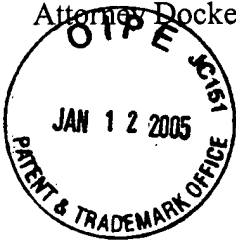
Attachment A: Preliminary Invention Disclosure dated April 30, 2002, with attached drawings of various embodiments of the Claimed Invention dated April 29, 2002 and April 30, 2002.

Attachment B September 20, 2002 letter from Robert J. Kapalka to Dean Small, requesting preparation of a patent application.

Attachment C: January 28, 2003 letter from Dean Small to Matthew McAlonis, first named inventor, forwarding first draft patent application to inventors for review.

Attachment D: March 11, 2003 letter from Dean Small to Matthew McAlonis, forwarding final draft application for review.

Attachment E: May 20, 2003 email communication from Dean Small's assistant (on behalf of Dean Small) to Troy Connor, co-inventor, forwarding corrected declaration and assignment paperwork to inventors for execution.



## APPENDIX A



Attorney Docket No.: 17938 (AT 20958-2091)

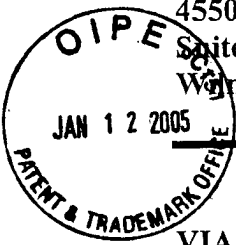
Serial No.: 10/624,856

## **APPENDIX B**

**THE WHITAKER CORPORATION**

4550 New Linden Hill Road  
Suite 450  
Wilmington, DE 19808-2952

**Robert J. Kapalka**  
**Phone: (302) 633-2771**  
**Fax: (302) 633-2776**



VIA FIRST CLASS MAIL

September 20, 2002

Dean Small, Esq.  
McAndrews, Held & Malloy, Ltd.  
34<sup>th</sup> Floor  
500 West Madison Street  
Chicago, IL 60661

**Re: New Patent Application Case Nos. 17936, 17937 and 17938**

Dear Dean:

Enclosed are copies of three PID's which relate to Tyco's Z-axis VRM (Voltage Regulator Module) project.

Please prepare patent applications for these PID's, and associate our case numbers with the PID's as follows:

<u>PID</u>	<u>Case No.</u>
2002093	17936
2002094	17937
2002095	17938

Please contact the inventors for complete details about the inventions.

I note that each of these PID's names ten inventors, and I suspect that these are people who are associated with the project, but who are not necessarily true inventors. Please try to determine correct inventorship as you investigate these cases.

Please acknowledge receipt of this letter via e-mail to [rjkapalka@tycoelectronics.com](mailto:rjkapalka@tycoelectronics.com).

Sincerely,

A handwritten signature in black ink that reads "Bob Kapalka". The signature is written in a cursive, flowing style.

Robert J. Kapalka  
Patent Attorney

RJK/pmc  
Enclosure(s)



## **APPENDIX C**





# ARMSTRONG TEASDALE LLP

Dean D. Small  
(314) 259-4711  
dsmall@armstrongteasdale.com

MISSOURI | KANSAS | ILLINOIS | WASHINGTON, DC | SHANGHAI | SYDNEY

ATTORNEYS AT LAW

January 28, 2003

## VIA ELECTRONIC MAIL

Matthew McAlonis  
[mmcaloni@tycoelectronics.com](mailto:mmcaloni@tycoelectronics.com)

**Your File No. 17938**  
**Our File No. 20958-2091**

Re: U.S. Patent Application  
Title: **"Contact Having Multiple Contact Beams"**

Dear Matt:

At the instruction of our client, Tyco Electronics Corporation (The Whitaker Corporation), we have prepared the enclosed draft patent application, including a set of claims, an abstract, a specification, and informal drawings. Please review these materials carefully, both to supplement areas where more description is needed and to correct any errors. If you are not the sole inventor, please distribute copies of the enclosed materials to your co-inventors and ask that they review the material in the same manner as outlined above. Then return a copy of the application containing your comments so that we may make the necessary changes. Once we have made any necessary corrections and additions to the application, we will send you the application in final form with the necessary paperwork for execution and filing. With respect to the informal drawings, please forward clean Auto CAD files for use in preparation of formal drawings.

As we understand it, all of the rights to the invention described in this patent application shall be assigned (i.e. ownership of all rights in the invention will be transferred) to Tyco Electronics Corporation, 2901 Fulling Mill Road, Middletown, PA 17057.

If you plan to disclose the invention for the first time soon, please advise us of your plans well in advance. If possible, we will complete and file this application before the invention is first disclosed, to preserve your right to file foreign counterpart applications in the future.

Finally, a duty of disclosure rests upon each inventor, each attorney, and every other individual who is substantively involved in the preparation and prosecution of a patent application. Each of these individuals has a duty to disclose all material information of which he or she is aware to the Patent and Trademark Office in a timely manner, failing which any resulting patent might be found invalid.



Generally speaking, "material information" is any information which establishes, alone or in combination with other information, a "prima facie" case that the claimed invention is not patentable, or which refutes or is inconsistent with an argument the applicant makes to the PTO respecting patentability. Such "material information" may include:

- 1) disclosures in prior U. S. or foreign patents, patent applications, or publications;
- 2) information known or used by others in this country;
- 3) the details of articles or processes which have been publicly or commercially used, offered for sale or sold in this country by you or others; and
- 4) the prior inventions of other inventors.

Please provide any such information you have which is not already discussed in the enclosed patent application.

If you have any questions, do not hesitate to call.

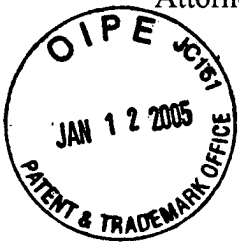
Very truly yours,

*Dean D. Small*

Dean D. Small


DDS/lr  
Enclosures

cc: Bob Kapalka



## **APPENDIX D**

Dean D. Small  
(314) 259-4711  
dsmall@armstrongteasdale.com



ARMSTRONG TEASDALE LLP

MISSOURI	KANSAS	ILLINOIS	WASHINGTON, DC	SHANGHAI	SYDNEY
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ATTORNEYS AT LAW

March 11, 2003

**VIA ELECTRONIC MAIL**

Matthew R. McAlonis  
mmcaloni@tycoelectronics.com

**Tyco Docket No. 17938**  
**Our Docket No. 20958-2091**

Re: U.S. Non-Provisional Patent Application  
Titled: "CONTACT HAVING MULTIPLE CONTACT BEAMS"

Dear Matthew:

We enclose a final draft patent application concerning the above-identified invention which we have prepared on behalf of our client Tyco Electronics Corporation (The Whitaker Corporation). Please have each inventor review the application carefully for accuracy and completeness. Also enclosed are the Declaration and Power of Attorney, and the Assignment documents. Please review the spelling of your names and address in the attached documents and, if necessary, correct the electronic files before execution. If you are satisfied with the revised application, and have no other changes to the application, please have each inventor sign and date the Declaration and Power of Attorney and sign, date and have witnessed the Assignment. The witness should preferably be a co-worker. If you have not yet done so, please forward clean Auto CAD files for use in preparation of formal drawings.

As previously explained to you, a duty of disclosure rests upon each inventor, each attorney, and every other individual who is substantively involved in the preparation and prosecution of a patent application. Each of these individuals has a duty to disclose all material information of which he or she is aware to the Patent and Trademark Office in a timely manner, failing which any resulting patent might be found invalid. Please keep this duty in mind throughout prosecution of the present application.

If you have any questions, do not hesitate to call.

Very truly yours,

*Dean D. Small*

Dean D. Small

Enclosures

cc: Bob Kapalka (via electronic mail)



## **APPENDIX E**

## Rebecca Scoggin

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**From:** Rebecca Scoggin on behalf of Dean Small  
**Sent:** Tuesday, May 20, 2003 1:52 PM  
**To:** 'teconner@tycoelectronics.com'  
**Cc:** Dean Small  
**Subject:** Tyco Docket #17938 (AT Docket #20958-2091)

Troy: Attached find corrected Declaration and Assignment documents. If you have any questions, please feel free to call.  
Thanks so much, Becki

Rebecca A. Scoggin

*Assistant to Dean Small*

**Armstrong Teasdale LLP**

One Metropolitan Square, Suite 2600

St. Louis, MO 63102

(314) 621-5070

(314) 621-5065 FAX



Assignment  
(S0978310).DOC



Declaration  
(S0978309).DOC

\*\*\*\*\*

### CONFIDENTIALITY NOTICE:

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## PRELIMINARY INVENTION DISCLOSURE

COMPLETE AND RETURN TO:

The Whitaker Corporation (M/S 324-01)  
4550 New Linden Hill Road, Suite 450  
Wilmington, DE 19808

SCRIPTIVE TITLE OF INVENTION:

Multiple Termination and Beam Contact for Surface Mount Connectors

DATE

4/30/02

WHAT IS THE PROBLEM WITH THE STATE OF THE ART, OR PRIOR ART TECHNOLOGY? WHAT IS THE PURPOSE OF THE INVENTION

In the world of electronics, manufacturers are consistently searching for methods to develop faster, more responsive, more reliable and lower cost systems. Size of components, inductance, and resistance are three features impact these system characteristics.

The quest to reduce size is driven by the goals for faster, more responsive, and lower cost systems. A reduction in components' size allows manufactures to utilize smaller printed wiring boards, and enclosures which reduces cost. The smaller sizes also create shorter circuit path which aids response time.

In addition to size, the response of many systems, especially power systems, are limited in their ability to respond to voltage transients due to high inductance. Lower inductance allows a quicker system response.

Lastly, resistance is a key fracture in system reliability. Lower resistance results in less heat generation and reduces energy consumption. This places a lighter thermal load on the system and allows equipment to operate more efficiently.

This design results in a smaller more dense connector system, with features which result in low inductance and low and more stable contact resistance value, all of which contribute to a more responsive, lower cost, and more reliable system.

WHAT ARE THE NEW FEATURES OF THE INVENTION WHICH OVERCOME THIS PROBLEM?

## 1. Overlapping Beams:

- Allow a greater quantity of power or signal to be transmitted through the same amount of area.
- Allow area for longer contact beams which facilitate a greater working range for the contact and at the same time permits using thicker stock material resulting a more robust contact.
- Place contact beams with opposite current flow in close proximity which lowers inductance by approximately 50%.

## 2. Multiple BGA or traditional surface mount terminations per contact:

- Prior Art surface mount designs feature only one termination per contact. This designs features from two to six leads per contact which lowers the overall contact resistance.

Working range: The range of z-axis separation in which the connector will still function. See diagram below.

ON SEPARATE DRAWINGS OR SKETCHES, DESCRIBE THE FEATURES OF THE INVENTION AND HOW THEY WILL WORK. ARE THESE ENCLOSED? ☒ YES ☐ NO

IDENTIFY THE CLOSEST PRIOR ART TECHNOLOGY, IF ANY, OF WHICH YOU ARE AWARE. PROVIDE COPIES IF AVAILABLE.

Socket-T contact is attached.

ENTER THE DATE OF THE FIRST WRITTEN DESCRIPTION OR THE FIRST DATED SKETCH OF INVENTION AND ATTACH COPIES. 2/22/02

ENTER THE DATE A WORKING MODEL, DEVICE OR PROCESS WAS OR WILL BE COMPLETED. 3/05/02

GIVE A BRIEF DESCRIPTION OF CIRCUMSTANCES OF INITIAL DISCLOSURE OUTSIDE AMP COMPANIES

Design was disclosed to Intel corporation on 2/22/02 under a confidentiality agreement and was labeled confidential.

ARE LATEST DRAWINGS ENCLOSED? ☒ YES ☐ NO ARE THEY CAD? ☒ YES ☐ NO

IF CAD, WHO SHOULD BE CONTACTED TO RETRIEVE CAD FILES? John Brown

INVENTOR'S FULL NAME (include full middle name) John Bossert Brown	INVENTOR'S FULL NAME (include full middle name) Matthew Richard McAlonis	INVENTOR'S FULL NAME (include full middle name) Justin Shane McClellan
BUSINESS PHONE 717-986-7304	BUSINESS PHONE 717-592-3478	BUSINESS PHONE 717-986-5953
FAX 717-986-3410	FAX 717-986-3410	FAX 717-592-3410
AMP EMPLOYEE NO. 51881	AMP EMPLOYEE NO. 38584	AMP EMPLOYEE NO. 50061
DIVISION C,C,&CE	DIVISION C,C,&CE	DIVISION C,C,&CE
MAILSTOP 128-83	MAILSTOP 128-83	MAILSTOP 128-83
CITIZENSHIP USA	CITIZENSHIP USA	CITIZENSHIP USA

2002095

HOME ADDRESS 1036 North US Route 15 Dillsburg, PA 17019	HOME ADDRESS 534A Beverly Road Elizabethtown, PA 17022	HOME ADDRESS 85 West Lauer Lane Camp Hill, PA 17011
SIGNATURE <i>John B Brown</i>	SIGNATURE <i>Matthew L. McMillin</i>	SIGNATURE <i>Justin S. McEllo</i>
DATE 07 May 2002	DATE 07 May 02	DATE 09 MAY 02
WITNESS <i>Attalee S. Taylor</i>	WITNESS <i>Justin S. McEllo</i>	WITNESS <i>John B Brown</i>
WITNESS <i>Justin S. McEllo</i>	WITNESS <i>John B Brown</i>	WITNESS <i>Matthew L. McMillin</i>
DIVISION MGR NAME & PHONE Dave Martin 717-592-3110 Attalee Taylor 717-592-3252	DIVISION MGR NAME & PHONE	DIVISION MGR NAME & PHONE
— FOR THE WHITAKER CORPORATION USE ONLY —		
		PID NO. 2002095
		ATTORNEY Robert J. Kapalka PHONE: (302) 633-2771

J:\FORMS\PID.DOC



## PRELIMINARY INVENTION DISCLOSURE

COMPLETE AND RETURN TO:

The Whitaker Corporation (M/S 324-01)  
4550 New Linden Hill Road, Suite 450  
Wilmington, DE 19808

DESCRIPTIVE TITLE OF INVENTION

DATE

*Multiple Terminations and Beam Contact...*

WHAT IS THE PROBLEM WITH THE STATE OF THE ART, OR PRIOR ART TECHNOLOGY? WHAT IS THE PURPOSE OF THE INVENTION?

WHAT ARE THE NEW FEATURES OF THE INVENTION WHICH OVERCOME THIS PROBLEM?

ON SEPARATE DRAWINGS OR SKETCHES, DESCRIBE THE FEATURES OF THE INVENTION AND HOW THEY WILL WORK. ARE THESE ENCLOSED? ☐ YES ☐ NO

IDENTIFY THE CLOSEST PRIOR ART TECHNOLOGY, IF ANY, OF WHICH YOU ARE AWARE. PROVIDE COPIES IF AVAILABLE.

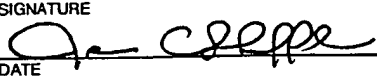
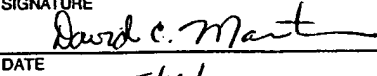
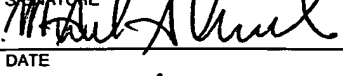
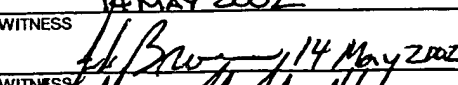
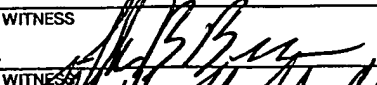
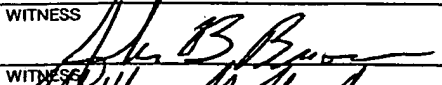



ENTER THE DATE OF THE FIRST WRITTEN DESCRIPTION OR THE FIRST DATED SKETCH OF INVENTION AND ATTACH COPIES.

ENTER THE DATE A WORKING MODEL, DEVICE OR PROCESS WAS OR WILL BE COMPLETED.

GIVE A BRIEF DESCRIPTION OF CIRCUMSTANCES OF INITIAL DISCLOSURE OUTSIDE AMP COMPANIES

ARE LATEST DRAWINGS ENCLOSED? ☐ YES ☐ NO ARE THEY CAD? ☐ YES ☐ NO

IF CAD, WHO SHOULD BE CONTACTED TO RETRIEVE CAD FILES?

INVENTOR'S FULL NAME (include full middle name) James Charles Shiffler	INVENTOR'S FULL NAME (include full middle name) David Charles Martin	INVENTOR'S FULL NAME (include full middle name) Michael Anthony Correll
BUSINESS PHONE 717-592-5216	BUSINESS PHONE 717-592-3110	BUSINESS PHONE 717-592-5156
FAX 17-986-3446	FAX 717-592-3244	FAX 717-592-6735
AMP EMPLOYEE NO. 20602	AMP EMPLOYEE NO. 16684	AMP EMPLOYEE NO. 44146
DIVISION C,C,&CE	DIVISION C,C,&CE	DIVISION C,C,&CE
MAILSTOP 128-52	MAILSTOP 128-52	MAILSTOP 128-52
CITIZENSHIP USA	CITIZENSHIP USA	CITIZENSHIP USA
HOME ADDRESS 115 Peach Ave. Hershey, PA 17033	HOME ADDRESS 1014 Tiverton Road Mechanicsburg, PA 17050	HOME ADDRESS 113 Providence Circle Middletown, PA 17057
SIGNATURE 	SIGNATURE 	SIGNATURE 
DATE 14 MAY 2002	DATE 5/16/02	DATE 15 MAY 2002
WITNESS 	WITNESS 	WITNESS 
WITNESS 	WITNESS 	WITNESS 
DIVISION MGR NAME & PHONE	DIVISION MGR NAME & PHONE	DIVISION MGR NAME & PHONE

— FOR THE WHITAKER CORPORATION USE ONLY —

PID NO.

2002095

ATTORNEY

Robert J. Kapalka

PHONE: (302) 633-2771

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*Multiple Termination and Beam Contact for Surface Mount Connectors*

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IDENTIFY THE CLOSEST PRIOR ART TECHNOLOGY, IF ANY, OF WHICH YOU ARE AWARE. PROVIDE COPIES IF AVAILABLE.

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ARE LATEST DRAWINGS ENCLOSED? ☐ YES ☐ NO ARE THEY CAD? ☐ YES ☐ NO

IF CAD, WHO SHOULD BE CONTACTED TO RETRIEVE CAD FILES?

INVENTOR'S FULL NAME (include full middle name)  
Peter Paul WilsonINVENTOR'S FULL NAME (include full middle name)  
Attalee S. TaylorINVENTOR'S FULL NAME (include full middle name)  
Brett Charles MillerBUSINESS PHONE  
717-592-5162BUSINESS PHONE  
717-592-3252BUSINESS PHONE  
717-986-7819X  
717-592-4699FAX  
717-985-2833FAX  
717-592-6735AMP EMPLOYEE NO.  
37829AMP EMPLOYEE NO.  
08751AMP EMPLOYEE NO.  
28485DIVISION  
C,C,&CEDIVISION  
C,C,&CEDIVISION  
C,C,&CEMAILSTOP  
128-52MAILSTOP  
128-89MAILSTOP  
128-40CITIZENSHIP  
USACITIZENSHIP  
USACITIZENSHIP  
USAHOME ADDRESS  
507 West Elm St.  
Palmyra, PA 17078HOME ADDRESS  
224 Bunny Lane  
Palmyra, PA 17078HOME ADDRESS  
65 Red Run Church Road  
East Berlin, PA 17316SIGNATURE  
*Peter Paul Wilson*SIGNATURE  
*Attalee S. Taylor*SIGNATURE  
*Brett C. Miller*DATE  
5/13/02DATE  
5/13/02DATE  
5/13/02WITNESS  
*Brett C. Miller* 5/13/02WITNESS  
*Just S. McElh...*WITNESS  
*Just S. McElh...*WITNESS  
*Just S. McElh...*WITNESS  
*Just S. McElh...*WITNESS  
*Just S. McElh...*

DIVISION MGR NAME &amp; PHONE

DIVISION MGR NAME &amp; PHONE

DIVISION MGR NAME &amp; PHONE

— FOR THE WHITAKER CORPORATION USE ONLY —

PID NO.

2002095

ATTORNEY

Robert S. Kapelka  
PHONE: (302) 633-2771

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The Whitaker Corporation (M/S 324-01)  
4550 New Linden Hill Road, Suite 450  
Wilmington, DE 19808

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DATE

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IDENTIFY THE CLOSEST PRIOR ART TECHNOLOGY, IF ANY, OF WHICH YOU ARE AWARE. PROVIDE COPIES IF AVAILABLE.

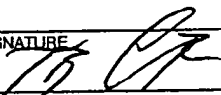
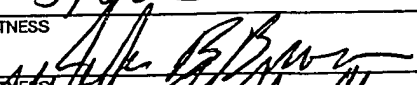
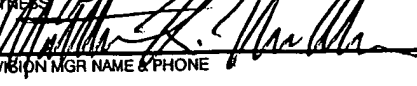
ENTER THE DATE OF THE FIRST WRITTEN DESCRIPTION OR THE FIRST DATED SKETCH OF INVENTION AND ATTACH COPIES.

ENTER THE DATE A WORKING MODEL, DEVICE OR PROCESS WAS OR WILL BE COMPLETED.

GIVE A BRIEF DESCRIPTION OF CIRCUMSTANCES OF INITIAL DISCLOSURE OUTSIDE AMP COMPANIES

ARE LATEST DRAWINGS ENCLOSED? ☐ YES ☐ NO ARE THEY CAD? ☐ YES ☐ NO

IF CAD, WHO SHOULD BE CONTACTED TO RETRIEVE CAD FILES?

INVENTOR'S FULL NAME (include full middle name) Troy Everett Conner	INVENTOR'S FULL NAME (include full middle name)	INVENTOR'S FULL NAME (include full middle name) B
BUSINESS PHONE 717-986-5719	BUSINESS PHONE	BUSINESS PHONE
FAX 17-986-3410	FAX	FAX
AMP EMPLOYEE NO. 22604	AMP EMPLOYEE NO.	AMP EMPLOYEE NO.
DIVISION C,C,&CE	DIVISION	DIVISION
MAILSTOP 128-83	MAILSTOP	MAILSTOP
CITIZENSHIP USA	CITIZENSHIP	CITIZENSHIP
HOME ADDRESS 2851 Judith Ct York, PA 17404	HOME ADDRESS	HOME ADDRESS
SIGNATURE 	SIGNATURE	SIGNATURE
DATE 5/8/02	DATE	DATE
WITNESS 	WITNESS	WITNESS
WITNESS 	WITNESS	WITNESS
DIVISION MGR NAME & PHONE	DIVISION MGR NAME & PHONE	DIVISION MGR NAME & PHONE

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PID NO.

ATTORNEY

PHONE: (302)